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Therapie

Volume 62, Issue 1, January 2007, Pages 23-29

Bronchodilatory effect of Carum copticum in airways of asthmatic patients

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Abstract

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Background. Several therapeutic effects including anti-asthma and dyspnea have been described for the seeds of Carum copticum. In previous studies the relaxant and anticholinergic (functional antagonism) effects, histamine H₁ inhibitory and α_2 stimulatory effects of Carum copticum have been demonstrated on guinea pig tracheal chains. In the present study, the bronchodilatory effect of boiled extract from Carum copticum in the airways of asthmatic patients was examined. Materials and methods. The bronchodilatory effects of 0.125 and 0.25 ml/kg of 10 g% boiled extract in comparison with 6 mg/kg theophylline and placebo were studied by measuring pulmonary function tests (PFTs) and specific airway conductance (sGaw). Pulmonary function tests were measured before administration and repeated 30, 60, 90, 120, 150 and 180 min after administration of the oral extract and theophylline. Results. The results showed that the boiled extract of Carum copticum caused significant increases in all PFT values, in most time intervals, ($p < 0.05$ to $p < 0.001$). However, the increase in most PFT values due to the both doses of boiled extract were significantly lower than those of theophylline in most time intervals ($p < 0.05$ to $p < 0.001$). The onset of bronchodilatory effect of extract was similar to that of theophylline beginning 30 min, its maximum effect on PFTs (23 to 32% increase) was seen in 90-120 min and the effect of extract decline after 150 min following administration similar to the effect of theophylline. In addition the placebo did not cause any significant increase in PFT values. Conclusion. In conclusion, the results of the present study showed that Carum copticum has a relatively bronchodilatory effect on asthmatic airways which was comparable with the effect of theophylline at concentrations used. © 2007 Société Française de Pharmacologie et de Thérapeutique.

Reaxys Database Information

Author keywords

Airways; Asthma; Bronchodilatory effect; Carum copticum

Indexed Keywords

EMTREE drug terms: Carum copticum extract; placebo; plant extract; salbutamol; theophylline; unclassified drug; bronchodilating agent

EMTREE medical terms: adult; aged; airway conductance; article; asthma; bronchodilatation; carum copticum; clinical article; clinical trial; controlled clinical trial; controlled study; female; human; lung function test; male; medicinal plant; priority journal; randomized controlled trial; caraway; chemistry; dose response; isolation and purification; middle aged; pathophysiology

MeSH: Adult; Aged; Asthma; Bronchodilator Agents; Carum; Dose-Response Relationship, Drug; Female; Humans; Male; Middle Aged; Plant Extracts; Respiratory Function Tests; Theophylline
Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: salbutamol, 18559-94-9; theophylline, 58-55-9, 5967-84-0, 8055-07-0, 8061-56-1, 99007-19-9; Bronchodilator Agents; Plant Extracts; Theophylline, 58-55-9

ISSN: 00405957 CODEN: THERA Source Type: Journal Original language: English

DOI: 10.2515/therapie:2007007 PubMed ID: 17374344 Document Type: Article

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